

CLAIMS

1. An isolated nucleic acid molecule comprising a polynucleotide selected from the group consisting of :
 - (a) a polynucleotide encoding at least amino acids 2 to 460 of SEQ ID NO:7;
 - (b) A polynucleotide encoding amino acids 1 to 460 of SEQ ID NO:7
 - (c) a polynucleotide that encodes at least amino acids 2 to 460 of the human Nkd polypeptide having SEQ ID NO:7;
 - (d) The polynucleotide complement of (a) or (b); or
 - (e) A polynucleotide that is at least 90% identical to the polynucleotide of (a), (b), (c) or (d).
2. The isolated nucleic acid molecule of Claim 1, which contains a polynucleotide encoding at least amino acids 2 to 460 of SEQ ID NO:7.
3. The isolated nucleic acid molecule of Claim 1 which contains a polynucleotide encoding amino acids 1 to 460 of SEQ ID NO:7.
4. The isolated nucleic acid molecule of Claim 1 which comprises the coding region of SEQ ID NO:5.
5. An isolated nucleic acid molecule which comprises at least 50 contiguous nucleotides of the coding region of SEQ ID NO:5.
6. The isolated nucleic acid molecule of Claim 5 which comprises at least 200 contiguous nucleotides of the coding region of SEQ ID NO:5.
7. The isolated nucleic acid molecule of Claim 5 which comprises at least 500 contiguous nucleotides of the coding region of SEQ ID NO:5.
8. The isolated nucleic acid molecule of Claim 5 which comprises at least 750 contiguous nucleotides of the coding region of SEQ ID NO:5.
9. The isolated nucleic acid molecule of Claim 5 which comprises the 1416 nucleotides that constitute the coding region of SEQ ID NO:5.
10. An isolated nucleic acid molecule comprising a nucleic acid sequence that is at least 90% identical to the coding region of SEQ ID NO:5.
11. The isolated nucleic acid molecule of Claim 10 which comprises a nucleic acid sequence that is at least 95% identical to the coding region of SEQ ID NO:5.

12. An isolated nucleic acid molecule which encodes a polypeptide that is at least 95% identical to the protein encoded by the coding region of SEQ ID NO:5.
13. An isolated nucleic acid molecule comprising a polynucleotide encoding a polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide comprises an amino acid sequence selected from the group consisting of
- (a) amino acids 2 to 460 of SEQ ID NO:7;
 - (b) amino acids 1 to 460 of SEQ. ID. NO.: 7;
 - (c) amino acids 2 to 460 of a non-human primate homologue of SEQ ID NO:7; and
 - (d) amino acids 1 to 460 of a non-human primate homologue of SEQ ID NO:7.
14. A recombinant vector which comprises an isolated nucleic acid molecule according to Claim 1 operably linked to a promoter.
15. A recombinant vector which comprises an isolated nucleic acid molecule according to Claim 5 operably linked to a promoter.
16. A recombinant vector which comprises an isolated nucleic acid molecule according to Claim 12 operably linked a promoter.
17. A host cell which comprises a recombinant vector according to Claim 14.
18. A host cell which comprises a recombinant vector according to Claim 15.
19. A host cell which comprises a recombinant vector according to Claim 16.
20. A method of producing a polypeptide comprising culturing the host cell of Claim 17 under conditions such that said polypeptide is expressed and recovering said polypeptide.
21. A method of producing a polypeptide comprising culturing the host cell of Claim 18 under conditions such that said polypeptide is expressed and recovering said polypeptide.

22. A method of producing a polypeptide comprising culturing the host cell of Claim 17 under conditions such that said polypeptide is expressed and recovering said polypeptide.
23. An isolated polypeptide comprising amino acids that are at least 95% identical to a polypeptide having the amino acid sequence selected from the group consisting of:
 - (a) amino acids 1 to 460 of SEQ ID NO:7;
 - (b) amino acids 2 to 460 of SEQ ID NO:7;
 - (c) a non-human primate homologue of the polypeptide having SEQ ID NO:7 or a portion thereof comprising at least 460 contiguous amino acids of said homologue.
24. An isolated polypeptide wherein, except for at least one conservative amino acid substitution, said polypeptide has an amino acid sequence selected from the group consisting of:
 - (a) amino acids 1 to 460 of SEQ ID NO:7;
 - (b) amino acids 2 to 460 of SEQ ID NO:7;
 - (c) a non-human primate homologue of the polypeptide corresponding to SEQ ID NO:7 or a portion thereof which comprises at least 460 contiguous amino acids of said homologue.
25. An isolated polypeptide comprising amino acids selected from the group consisting of:
 - (a) amino acids 1 to 460 of SEQ ID NO:7;
 - (b) amino acids 2 to 460 of SEQ ID NO:7;
 - (c) a full length non-human primate homologue of the polypeptide having SEQ ID NO:7 or a portion thereof comprising at least 460 contiguous amino acids of said homologue.
26. A fragment of the polypeptide of SEQ ID NO:7 which elicits the product of an antibody that specifically binds to hNkd but which does not specifically bind murine or Drosophila Nkd.
27. The fragment of Claim 25 which comprises at least 50 contiguous amino acids of SEQ ID NO:7.

28. An isolated antibody that specifically binds to the human Nkd polypeptide of SEQ ID NO:7 or a non-human primate homologue thereof but which does not appreciably bind mouse or *Drosophila* Nkd.
29. The isolated antibody of Claim 28 which is a monoclonal antibody.
30. The isolated antibody of Claim 29 which is a human, humanized or chimeric monoclonal antibody.
31. A complex comprising a protein having the amino acid sequence of SEQ ID NO:7 or a full-length non-human primate homologue thereof and a Dishevelled protein (Dsh).
32. A complex comprising a fragment of the protein comprising the amino acid sequence shown in SEQ ID NO:7 or a fragment of a non-human primate homologue thereof and a Dishevelled protein (Dsh).
33. The complex of Claim 32 wherein said fragment comprises the EF-hand region of the polypeptide shown in SEQ ID NO:7.
34. A method of inhibiting Wnt signaling in a mammalian cell comprising administering the protein having amino acid sequence contained in SEQ ID NO:7 or a full-length non-human primate homologue thereof.
35. The method of Claim 34 wherein said mammalian cell is transformed with a vector containing a polynucleotide sequence encoding SEQ ID NO:7.
36. A method of treating a cancer involving aberrant Wnt signaling comprising administering a therapeutically effective amount of a polypeptide having SEQ ID NO:7, a non-human primate homologue thereof, or a fragment thereof comprising at least 20 contiguous amino acids of SEQ ID NO:7 which elicits the production of an antibody that specifically binds hNkd polypeptide.
37. The method of Claim 36 wherein said cancer is selected from the group consisting of colon cancer, head and neck cancer, ovarian cancer and breast cancer.
38. A method of diagnosing a form of cancer potentially involving aberrant Wnt signaling comprising detecting whether human cancer cells obtained from a human patient comprise a human Nkd gene having a

coding sequence that differs from the coding sequence having SEQ ID NO:5.

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